

The opinion in support of the decision being entered today was not written for publication and is not binding precedent of the Board.

Paper No. 21

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte DUSIT KRUANGAM

Appeal No. 1999-1891
Application No. 08/421,089

ON BRIEF

Before LALL, BARRY, and LEVY, Administrative Patent Judges.

LALL, Administrative Patent Judge.

DECISION ON APPEAL

This is a decision on appeal under 35 U.S.C. § 134 from the examiner's final rejection¹ of claims 4-28. Claims 1-3 have been canceled.²

¹ An amendment after the final rejection was filed as Paper No. 10. However, the examiner did not approve its entry, see Paper No. 11.

² See second amendment after the final rejection, Paper No. 16, which the examiner approved for entry, see examiner's

The disclosed invention relates to a two element photocoupler, including an amorphous semiconductor thin film light emitting diode capable of emitting light in response to electrical stimuli and an amorphous semiconductor photovoltaic light detecting means adapted to detect emitted from the thin film light emitting diode. The light emitting diode comprises a first thin film electrode, a plurality of amorphous semiconductor thin films, an optically transparent second thin film electrode, and an optically transparent substrate, arranged in a sandwich type manner. This arrangement allows for emission of light through the optically transparent substrate when the light emitting diode is electrically stimulated. The photovoltaic light detecting means comprises a first thin film electrode, a plurality of amorphous semiconductor thin films, an optically transparent second thin film electrode, and an optically transparent substrate, arranged in a sandwich manner, which also is described having the order listed. The optically transparent substrates of both the light emitting diode and the light detecting means are adapted to face each other with a spatial predetermined

answer at page 1.

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separation. A further understanding of the invention can be achieved by the following claim.

4. A photocoupler including:

an amorphous semiconductor thin film light emitting diode capable of emitting light in response to an electric stimuli;

an amorphous semiconductor photovoltaic light detecting means adapted to detect the emitted light of the thin film light emitting diode;

said light emitting diode comprising of a first thin film electrode, a plurality of amorphous semiconductor thin films, an optically transparent second thin film electrode, and an optically transparent substrate, arranged in a sandwich type manner, such an arrangement allowing emission of light through the optically transparent substrate when the light emitting diode is electrically stimulated; and

said photovoltaic light detecting means comprising of a first thin film electrode, a plurality of amorphous semiconductor thin films, an optically transparent second thin film electrode, and an optically transparent substrate, arranged in a sandwich type manner, the optically transparent substrates of both the light emitting diode and the light detecting means adapted to face each other with a spatial predetermined separation.

The examiner relies on the following references:

Hamakawa et al. (Hamakawa)	4,499,331	Feb. 12,
1985		

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Winstel et al. (Winstel) (Germany) 2,422,330³ Nov. 13,
1975

Claims 4-28 stand rejected under 35 U.S.C. § 103 as being unpatentable over Winstel in view of Hamakawa.

Rather than repeat the arguments of appellant and the examiner, we make reference to the brief⁴ and the answer for the respective details thereof.

OPINION

We have considered the rejection advanced by the examiner and the supporting arguments. We have, likewise, reviewed the appellant's arguments set forth in the brief.

We reverse.

In an appeal involving a rejection under 35 U.S.C. § 103, an Examiner is under a burden to make out a prima facie case of obviousness. If that burden is met, the burden of going forward then shifts to the Applicant to overcome the prima facie case with argument and/or evidence. Obviousness is then determined on the basis of the evidence as a whole and the

³ An English translation of this patent is enclosed with this decision.

⁴ A supplemental brief, Paper No. 19, was filed merely to correct the formalities noted in the principal brief.

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relative persuasiveness of the arguments. See In re Oetiker, 977 F.2d 1443, 1445, 24 USPQ2d 1443, 1444 (Fed. Cir. 1992); In re Hedges, 783 F.2d 1038, 1039, 228 USPQ 685, 686 (Fed. Cir. 1986); In re Piasecki, 745 F.2d 1468, 1472, 223 USPQ 785, 788 (Fed. Cir. 1984); and In re Rinehart, 531 F.2d 1048, 1052, 189 USPQ 143, 147 (CCPA 1976).

We are further guided by the precedent of our reviewing court that the limitations from the disclosure are not to be imported into the claims. In re Lundberg, 244 F.2d 543, 548, 113 USPQ 530, 534 (CCPA 1957); In re Queener, 796 F.2d 461, 463-64, 230 USPQ 438, 440 (Fed. Cir. 1986). We also note that the arguments not made separately for any individual claim or claims are considered waived. See 37 CFR § 1.192 (a) and (c). In re Baxter Travenol Labs., 952 F.2d 388, 391, 21 USPQ2d 1281, 1285 (Fed. Cir. 1991) ("It is not the function of this court to examine the claims in greater detail than argued by an appellant, looking for nonobvious distinctions over the prior art."); In re Wiechert, 370 F.2d 927, 936, 152 USPQ 247, 254 (CCPA 1967) ("This court has uniformly followed the sound rule that an issue raised below which is not argued in that court, even if it has been properly brought here by a reason

of appeal, is regarded as abandoned and will not be considered. It is our function as a court to decide disputed issues, not to create them.").

Analysis

We first consider independent claim 4. On page 3 of the examiner's answer, the examiner discusses Winstel and Hamakawa and concludes that "[i]t would have been obvious . . . to combine the teachings of Hamakawa for the diode structure with that of Winstel in order to integrate in one photocoupling device." On pages 6 through 9 of the brief, appellant argues that the examiner has not presented a prima facie case of obviousness. However, we do not agree with the appellant's argument because the two references combined as suggested by the examiner do present a prima facie case of obviousness. Appellant further argues, pages 9 through 14 of the brief, that the claimed combinations are not obvious. Appellant argues, brief at page 13, that:

The combination of the elements recited in the claims could not have been obvious to a person of ordinary skill in the art, using the Winstel et al. reference as the starting point, because no teaching, incentive or suggestion exists, outside of the confines of the present application, for such a modification. The test utilized in the Final

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Rejection is a classic hindsight reasoning test
which has been found improper. . . .

In response, the examiner asserts, answer at page 6, that:

The Examiner maintains the combination to be proper.
The combination does not stretch the limits of
Graham v. Deere, but simply substitutes known
materials of one reference given motivation to
combine functional equivalents of another. The base
reference of Winstel teaches most of the invention
except for the materials which is why Hamakawa is
relied upon.

We disagree with the examiner's assertion. Our reading
of the reference indicates that Hamakawa does teach a
photovoltaic device which has a structure generally similar to
the structure shown by the photovoltaic device in the
appellant's invention, see Figure 1(b) and 4(b) and column 4,
lines 59-66 and column 5, lines 55 to column 6, line 14.
Thus, there is substrate made of glass at 1, first electrode
at 2, semiconductor material at 3, 4 and 5 and a second
electrode at 6. However, Hamakawa does not hint that such
structural material can be used in making of a light emitting
diode. Winstel, on the other hand, shows an optoelectronic
semiconductor coupling element but its whole device is made of
a single crystal as appellant has pointed out. Various parts
of the crystal are doped to suit the desired characteristics,

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such as electrodes at 6, light emitting diode at 1 and a light detecting device at item 3 of the figure. The first and the second electrodes in each of the light emitting diode and the photo detecting diode are indicated at 6 in the form of metal layers and show no suggestion of being constructed in a sandwich formation as claimed. We find nothing in Winstel which would suggest an artisan to modify the structure of the light emitting diode and the photovoltaic diode to make them as two separate structures and to construct the claimed electrodes and the semiconductor layers in the form of a sandwich as claimed. We agree with appellant that an artisan would have to use the appellant's invention as a road map to arrive at the combination suggested by the examiner to meet the claimed invention.

The Federal Circuit states that "[the] mere fact that the prior art may be modified in the manner suggested by the Examiner does not make the modification obvious unless the prior art suggested the desirability of the modification." In re Fritch, 972 F.2d 1260, 1266 n.14, 23 USPQ2d 1780, 1783-84 n.14 (Fed. Cir. 1992) (citing In re Gordon, 773 F.2d 900, 902,

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221 USPQ 1125, 1127 (Fed. Cir. 1984)). "Obviousness may not be established using hindsight or in view of the teachings or suggestions of the inventor." Para-Ordinance Mfg. v. SGS Importers Int'l, 73 F.3d at 1087, 37 USPQ2d at 1239 (Fed. Cir. 1995) (citing W.L. Gore & Assocs. v. Garlock, Inc., 721 F.2d 1551, 1553, 220 USPQ 311, 312-13 (Fed. Cir. 1983)).

Therefore, we conclude that the suggested combination is improper. We do not sustain the obviousness rejection of claim 4 and its dependent claims 5-16 and 27.

With respect to independent claim 17, noting that it also has a structure corresponding to the structure claimed in claim 4 and that the examiner relies on the same combination of Winstel and Hamakawa, we conclude that the rejection of claim 17 and its dependent claims 18-26 and 28 based on the combination of Hamakawa and Winstel is improper and not sustainable.

Accordingly, the decision of the examiner rejecting claims 4-28 under 35 U.S.C. 103 is reversed.

REVERSED

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	Parshotam S. Lall)	
	Administrative Patent Judge)	
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